

Notice of Allowability

Application No.

09/972,462

Applicant(s)

DELAIRE ET AL.

Examiner

Art Unit

KAMAL B. DIVECHA

2151

-- The MAILING-DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/05/2005.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☒ The drawings filed on 05 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



ZARNI MAUNG

SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Janaki K. Davda on July 14, 2005.

1. The application has been amended as follows:

In the claims:

In claim 7, please replace "the first and the second digital processors" with - - the first and the second host digital data processors - -.

In claim 8, please replace "the first host digital processor" with - - the first host digital data processor - -.

In claim 20, please replace "the file system" with - - a RAID file system - -.

In claim 20, please replace "the software RAID file system" with - - the RAID file system - -.

In claim 21, please replace "the file system" with - - a RAID file system - -.

In claim 22, please replace "the file system" with - - a RAID file system - -.

In claim 23, please replace "the file system" with - - a RAID file system - -.

In claim 24, please replace "the file system" with - - a RAID file system - -.

In claim 26, please replace "the file system" with - - a RAID file system - -.

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In claim 26, please replace “the software RAID file system” with - - the RAID file system - -.

In claim 27, please replace “the file system” with - - a RAID file system - -.

In claim 28, please replace “the file system” with - - a RAID file system - -.

In claim 29, please replace “the file system” with - - a RAID file system - -.

In claim 30, please replace “the file system” with - - a RAID file system - -.

2. The following is an examiner’s statement of reasons for allowance:

Claims 1-29 are allowable over the prior art of record:

The first primary reason for allowance of the claims is the improvement over the prior art. The improvement comprises a system wherein the host digital data processor is associated with a lower capacity bound describing a minimum available storage capacity of the storage devices and the upper capacity bound describing a maximum available storage capacity of the storage devices, and a manager responding to a file system extension request by a host digital data processor, wherein the manager identifies storage devices from among the plurality of further storage devices accessible to the host digital data processor having capacities in a range between the lower bound and upper bound, taking into the account the number of stripes available in the file system, and the manager assigning the identified storage devices to the host digital data processor based upon the lower capacity bound and upper capacity bound.

The second primary reason for allowance of the claims is the because of the non-obvious process of assigning storage devices to the host digital data processor based upon the lower capacity bound and upper capacity bound by determining a number of storage (n) devices to be assigned according to a relation $n=m+1$, $n=s$, $n=s*(m+1)$ and $n=(m+1)*s$; where m is the number

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of mirror redundancies in a RAID file system and s is the number of stripes in a RAID file system.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Flex schedule 8 hr days (10.00am-6.30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 15, 2005.


ZARNI MAUNG
ADVISORY PATENT EXAMINER